

PATENT ABSTRACTS OF JAPAN

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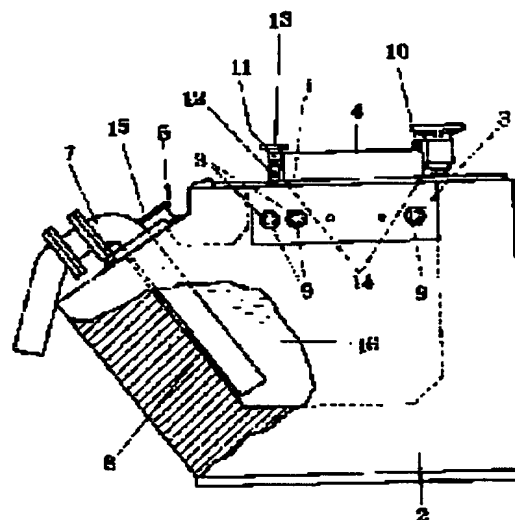
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(54) MOLTEN METAL CARRYING FURNACE FOR CASTING AND THE LIKE

(57)Abstract:

PURPOSE: To make the workability safe and good by arranging an inner pressure adjusting means and a discharging part for charged molten metal in a molten metal carrying furnace body.

CONSTITUTION: In the molten metal carrying furnace body 2, a molten metal treating hole 1 for executing degassing, deoxidizing, etc., to the charged molten metal 16 is provided at the upper part, and a casting temp. holding means 3 for the charged molten metal 16 is arranged and a closed cover 4 is air-tightly attached to the molten metal treating hole 1. In the furnace body 2, a cleaning hole 5 used to a molten metal charging hole and the inner pressure adjusting means in the closed furnace body 2 are provided by utilizing an exothermic body inlet/outlet 9 and further, the discharging part 7 of the charged molten metal 16 according to variation of the inner pressure is arranged. By this method, as the molten metal charged into the molten metal carrying furnace body is carried in the closed condition, the safety is high, and as the surroundings of the furnace body do not become high temp., the general one is used for shifting means of crane, etc.



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CLAIMS

[Claim(s)]

[Claim 1] A molten metal haulage furnace body equipped with molten-metal-treatment openings, such as degasifying of the fusion metal held in the upper part, and deoxidation, The maintenance means of the casting temperature of the hold molten metal prepared in this molten metal haulage furnace body, and the lock out lid which opposite-** in airtight to said molten-metal-treatment opening, The molten metal haulage furnaces for [which was characterized by preparing in the cleaning hole which served as molten metal hold opening prepared in the molten metal haulage furnace body, the internal pressure adjustment means of the sealed furnace body which is prepared in a molten metal haulage furnace body, and a molten metal haulage furnace body, and constituting from a takeoff connection of the hold molten metal accompanying change of internal pressure] casting.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the molten metal haulage furnaces for [which enables simplification or laborsaving of the fore-hearth which can process the process from a fore-hearth to ****, and the facility which unified the ladle, and can plan safeties, such as foundry practice,] casting.

[0002]

[Description of the Prior Art] When carrying conventionally the molten metal of the metal dissolved by predetermined casting temperature with the reverberatory furnace to the foundry-practice section As shown in drawing 4 , once hold the molten metal 18 dissolved with the reverberatory furnace 17 in a fore-hearth 19, and molten metal treatment by component preparation is performed in this fore-hearth 19. After moving to a ladle 20 and performing degasifying, deoxidation, etc., a ladle 20 Furthermore, a crane, After making it move to the holding furnace 22 with which the foundry-practice section was equipped using the migration means 21, such as a lift, a monorail, and a traverser, it moves to a holding furnace 22, or a ladle 20 is tilted as it is, and it decompresses or pressurizes by HOMPU, and moves to a holding furnace 22, and **** of the specified quantity is performed.

[0003] However, since many facilities of a fore-hearth or a ladle are needed, and a molten metal is moved from the fore-hearth from a reverberatory furnace, and this fore-hearth to a holding furnace one by one from a ladle and a ladle on the occasion of haulage and it ***** to ** when based on said conventional haulage Since it moves to the ladle of an opening condition in migration safety is very low and according especially to a ladle, and it carries as it is, and a perimeter serves as an elevated temperature, the crane and lift of a migration means aim at safety maintenance. It has the problem on which an installation cost expensive-izes thermal resistance by using the thing of a **** particular. Moreover, in order to move one by one and to carry from ** to **, molten metal temperature might get down, the cast conditions (lowering-izing of casting temperature etc.) of a molten metal might be worsened, it moved, ***** got hot to **, and there was a trouble of working capacity falling sharply in a summer further again.

[0004]

[Problem(s) to be Solved by the Invention] This invention enables equipment saving and energy saving as a sealing furnace which was made in order to cancel the above mentioned conventional technical problem, unifies a fore-hearth and a ladle, and can perform casting-temperature maintenance of a molten metal, and while a perimeter does not get hot but being able to use a general traverser etc., it aims at offer of the molten metal haulage furnaces for [from which safe molten metal haulage does not start efficiency lowering of foundry practice etc. to a line / convenient] casting during haulage.

[0005]

[Means for Solving the Problem] The means of the molten metal haulage furnaces for [concerning this invention for attaining the above-stated object] casting etc. A molten metal haulage furnace body equipped with molten-metal-treatment openings, such as degasifying of the fusion metal held in the upper part, and deoxidation, The maintenance means of the casting temperature of the hold molten metal prepared in this molten metal haulage furnace body, and the lock out lid which opposite-** in airtight to said molten-metal-treatment opening, It is the configuration that it can prepare in the cleaning hole which served as molten metal hold opening prepared in the molten metal haulage furnace body, the internal pressure adjustment means of the sealed furnace body which is prepared in a molten metal haulage

furnace body, and a molten metal haulage furnace body, and can consist of a takeoff connection of the hold molten metal accompanying change of internal pressure, and chemical entity adjustment can be performed. [0006]

[Function] When carrying the molten metal which consists of a fusion metal using the molten metal haulage furnace of this invention While the metal dissolved with the reverberatory furnace from ***** in molten metal hold opening of a molten metal haulage furnace body is invested, and the temperature of a molten metal carries out temperature maintenance with the maintenance means of the casting temperature by an electric heater etc. so that it may be trivial after carrying out specified quantity hold After performing molten metal treatment, such as degasifying of a molten metal, and deoxidation, from molten-metal-treatment opening, it is what applies a sealing lid to said molten metal hold opening and **** processing opening, and is blockaded in airtight. Furthermore, the sealed molten metal haulage furnace body is carried to the hand furnace which it had near the casting machine with migration means, such as a crane, a lift, and a traverser. Furthermore, the molten metal which raised and held the internal pressure of the furnace body which carried out airtight maintenance with the internal pressure adjustment means formed in the molten metal haulage furnace body when a molten metal was taken out from a molten metal haulage furnace body is moved to said hand furnace as it is from a takeoff connection, and it is ** to **. Since the furnace body is sealed during migration of said molten metal haulage furnace body, like a ladle, it does not get hot, but a perimeter cannot be based on a special configuration, can use a general thing, and can convey migration means, such as a traverser, safely. [0007]

[Example] Next, it is that drawing and drawing 2 which drawing 1 holds a molten metal and show a haulage condition when the example of the molten metal haulage furnaces for [concerning this invention] casting etc. is explained based on a drawing indicate this top view for a molten metal, and drawing 3 indicates a drawing condition to be. The molten metal haulage furnace body 2 with which the molten metal haulage furnace by this example equipped the upper part with the molten-metal-treatment openings 1, such as degasifying and deoxidation, The maintenance means 3 of the casting temperature of a hold molten metal formed in this molten metal haulage furnace body 2 free [attachment and detachment], The lock out lid 4 which opposite-**(ed) to the molten-metal-treatment opening 1, and the cleaning hole 5 which serves as molten metal hold opening prepared in the molten metal haulage furnace body 2, It consists of an internal pressure adjustment means 6 to pressurize the furnace body prepared in the molten metal haulage furnace body 2, and a takeoff connection 7 of the hold molten metal prepared in said molten metal haulage furnace body 2 free [desorption]. Said molten metal haulage furnace body 2 It considers as a sealing reverberatory-furnace type with a rectangle, and the cleaning hole 5 which serves the molten-metal-treatment opening 1 as molten metal hold opening in the anteversion hold section 8 makes the top face have carried out opening of the anteversion hold section 8 which has the include angle of 35 degrees at anterior part. [0008]

Next, the heating element which consists of an electric heater is used for the maintenance means 3 of casting temperature formed in the molten metal haulage furnace body 2, and it holds the casting temperature of this so that receipts and payments may be made freer than the heating element gate 9 which carried out opening to the side attachment wall of the molten metal haulage furnace body 2 and temperature of the held molten metal may not be lowered. Said heating element gate 9 serves as the applied part of the internal pressure adjustment means 6 of the furnace body by the compressed air in the case of drawing of a molten metal. In addition, the maintenance means 3 of this casting temperature may install the immersion form heating element prepared near the bottom section. [0009]

The pressure welding of the lock out lid 4 which opposite - ** to molten metal treatment opening 1 of a molten metal haulage furnace body 2 carry out to molten metal treatment opening 1 by screwing binding of the binding handle 13 which made the stop metallic ornaments 12 in which **** be free engage to the stop section 11 of the shape of U which enabled rotation of in the mounting beam hatch way form configuration to the shaft 10 which prepared the back end section in about one molten metal treatment opening as a cross section pan configuration have a periphery , and be prepared in the front end , and screwed in said shaft 10 . Airtight lock out is enabled by the sealant 14 prepared in this *****. Moreover, the sealing lid 15 which enabled the above and same airtight maintenance is formed also in the cleaning hole 5 which serves as molten metal hold opening free [closing motion]. [0010]

Next, piping 6a by which the internal pressure adjustment means 6 of the furnace body 2 supplies

the compressed air from a compressor (graphic display abbreviation) and this compressor into the molten metal haulage furnace body 2, It is what consists of a regulator, a bulb, and an urgent exhaust air bulb, raises the internal pressure within the molten metal haulage furnace body 2 of an anchoring sealing condition for said piping 6a to this using the heating element gate 9 of the molten metal haulage furnace body 2, and takes out a molten metal 16. In this case, a regulator's pressure is raised slowly, checking the pressure gage in a furnace. The molten metal held when furnace internal pressure became 0.1kg/cm² at this time goes up by about 400mm, and a molten metal comes out from a takeoff connection 7 by about 0.2kg/cm².

[0011] The takeoff connection 7 of the molten metal 16 detachably prepared in the molten metal haulage furnace body 2 Use pipe tubing curved in the inverted-U character form, and from the output port which carried out opening to the anteversion hold section 8 of said molten metal haulage furnace body 2, one side of pipe tubing is inserted, where the regio oralis is sealed. The molten metal 16 which went up by actuation of said internal pressure adjustment means 6 is moved to ejection, a hand furnace (graphic display abbreviation), or the mold section from opening of another side, or is slushed. The cleaning hole 5 which serves as molten water hold opening is formed beside this takeoff connection 7.

[0012] As mentioned above, when carrying the molten metal of a fusion metal from a reverberatory furnace at the molten metal haulage furnaces for [by this example] casting etc. Carry out opening of the molten metal hold opening 5 prepared in the anteversion hold section 8 of the molten metal haulage furnace body 2, and a molten metal is made to hold. Furthermore, it removes with the instrument which dried the oxide on a molten metal enough, putting in this degassing apparatus for nitrogen gas and argon gas into a molten metal calmly with a sink timely at degassing apparatus, performing degasifying, and checking the capacity in a molten metal from the upside molten-metal-treatment opening 1. Carrying out the temperature control of a molten metal with the maintenance means 3 of casting temperature which carried out seal closeout of said molten metal hold opening 5 and molten-metal-treatment opening 1 with the lock out lids 4 and 15, respectively, and was established molten metal haulage furnace body 2, after ending said degasifying activity Since the molten metal haulage furnace body 2 is moved to a predetermined location with migration means, such as a traverser The part of said maintenance means 3 is equipped with the internal pressure adjustment means 6. Again Pipe tubing of a takeoff connection 7 is attached, the pressure of the regulator of the internal pressure adjustment means 6 is raised slowly, the internal pressure of a furnace body is adjusted to 0.1kg/cm² - 0.2kg/cm², a molten metal side is raised, and a molten metal is taken out from said takeoff connection 7 to a hand furnace etc. as it is. Moreover, this application-of-pressure process may adjust application of pressure using the pressurizer using a servo valve and a pressure sensor.

[0013]
[Effect of the Invention] Like the above statement, the molten metal haulage furnaces for casting of this invention etc. A molten metal haulage furnace body equipped with molten-metal-treatment openings, such as degasifying of the fusion metal held in the upper part, and deoxidation, The maintenance means of the casting temperature of the hold molten metal prepared in this molten metal haulage furnace body, and the lock out lid which opposite-** in airtight to said molten-metal-treatment opening, It is what prepares in the cleaning hole which serves as molten metal hold opening prepared in the molten metal haulage furnace body, the internal pressure adjustment means of the sealed furnace body which is prepared in a molten metal haulage furnace body, and a molten metal haulage furnace body, and is constituted from a takeoff connection of the hold molten metal accompanying change of internal pressure. Since it moves to the ladle of an opening condition like [since the molten metal held in the molten metal haulage furnace body is conveyed in the state of sealing, high / of the safety / is carried out extremely and] conveyance by the ladle and does not carry Since the perimeter of a furnace body does not serve as an elevated temperature and migration means, such as a crane, and a lift, a traverser, can use a general thing, an installation cost does not expensive-ize. moreover, the thing for which molten metal temperature gets down and the cast conditions of a molten metal are worsened since this invention is not based on the haulage which it is what unified the fore-hearth and the ladle, and moves like before, boils to ** and is depended on it -- or . Since there is also nothing to which the haulageway and the workplace got hot and to do further again, working capacity is sharply raised also in a summer etc. moreover, drawing of a molten metal -- the time -- ** -- a pressure type -- depending -- a sake -- tilting, a pump rise, and reduced pressure -- comparing -- very -- safe -- workability is good -- becoming . The characteristic effectiveness of ** is done so.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the side elevation which traveled through the part which shows the example of the molten metal haulage furnaces for [concerning this invention] casting etc., and shows the haulage condition of a molten metal.

[Drawing 2] It is the top view of the haulage condition of the molten metal in this example.

[Drawing 3] It is the side elevation which traveled through the part which shows the drawing condition of the molten metal in this example.

[Drawing 4] It is the explanatory view showing the conventional molten metal means of transportation.

[Description of Notations]

- 1 Molten Metal Hold Opening
- 2 Molten Metal Haulage Furnace Body
- 3 Maintenance Means
- 4 Lock Out Lid
- 5 Cleaning Hole
- 6 Internal Pressure Adjustment Means
- 7 Takeoff Connection

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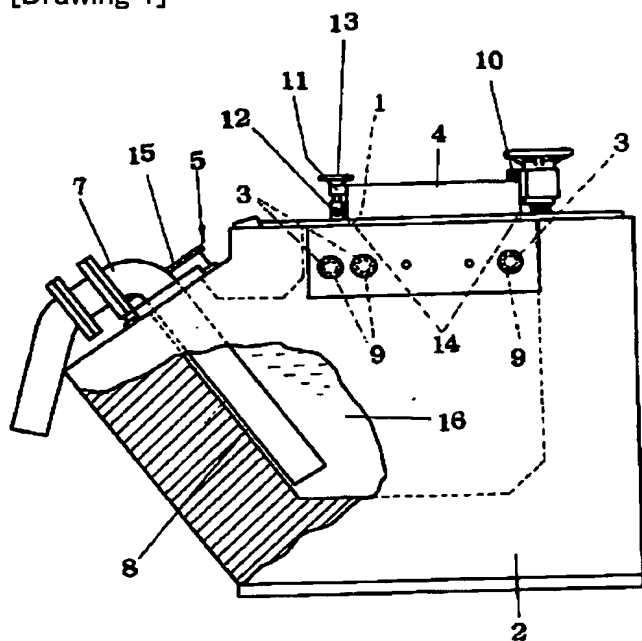
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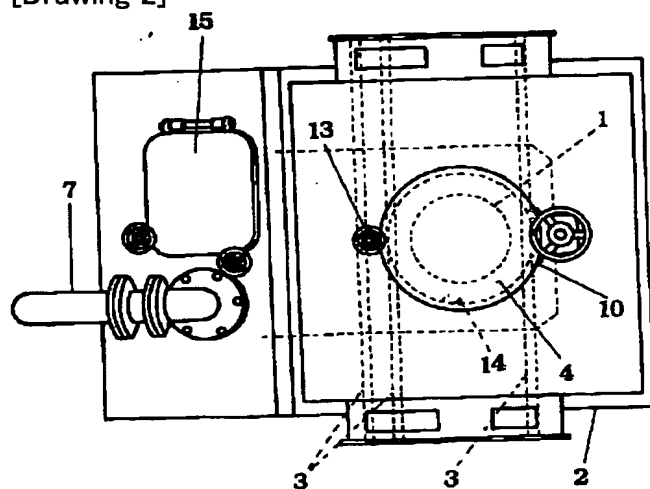
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DRAWINGS

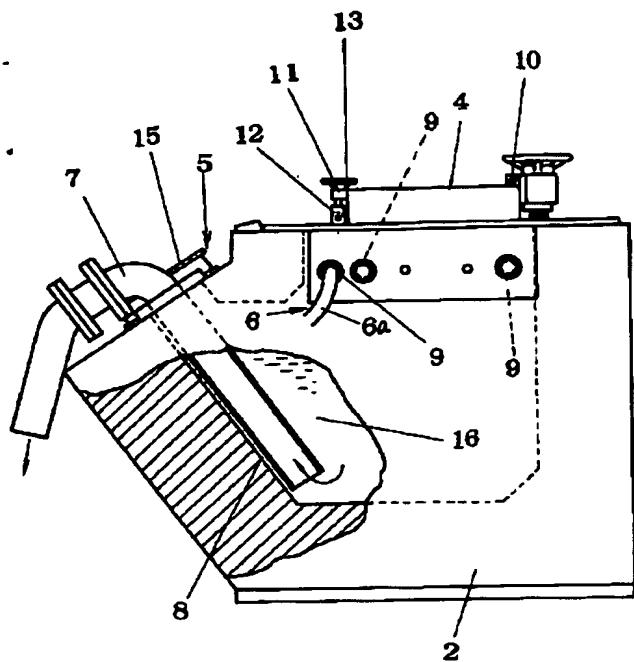
[Drawing 1]



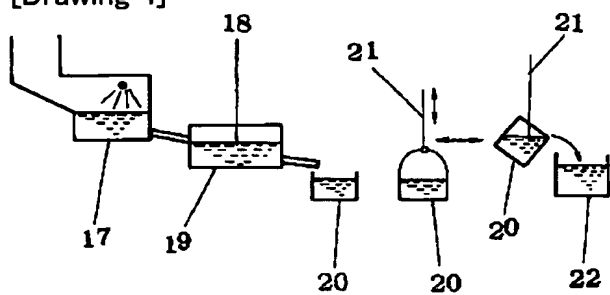
[Drawing 2]



[Drawing 3]



[Drawing 4]



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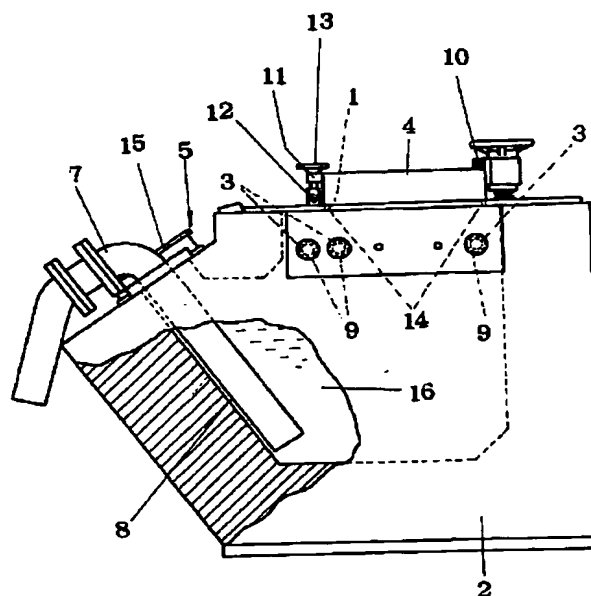
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(54)【発明の名称】 鑄造用等の溶湯運搬炉

(57)【要約】

【目的】 本発明は、前炉から配湯までの工程を処理できる前炉、とりべを一体化した設備の簡略化又は省力化を可能とし且つ鑄造作業等の安全性を図ることのできる鑄造用等の溶湯運搬炉に関する。

【構成】 上部に收容する融解金属の脱ガス、脱酸等の溶湯処理口を備える溶湯運搬炉本体と、該溶湯運搬炉本体に設けた收容溶湯の鑄込温度の保持手段と、前記溶湯收容口へ気密的に対設する閉塞蓋と、溶湯運搬炉本体に設けた溶湯收容口を兼ねる掃除口と、溶湯運搬炉本体に設ける密閉した炉本体の内部圧調整手段と、溶湯運搬炉本体に設け且つ内部圧の変化に伴う收容溶湯の取出し部とより構成する。



【特許請求の範囲】

【請求項 1】 上部に、収容する融解金属の脱ガス、脱酸等の溶湯処理口を備える溶湯運搬炉本体と、該溶湯運搬炉本体に設けた収容溶湯の鑄込温度の保持手段と、前記溶湯処理口へ気密的に対設する閉塞蓋と、溶湯運搬炉本体に設けた溶湯収容口を兼ねた掃除口と、溶湯運搬炉本体に設ける密閉した炉本体の内部圧調整手段と、溶湯運搬炉本体に設け且つ内部圧の変化に伴う収容溶湯の取出し部とより構成することを特徴とした鑄造用等の溶湯運搬炉。

【発明の詳細な説明】

【0001】

【産業上の利用分野】 本発明は、前炉から配湯までの工程を処理できる前炉、とりべを一体化した設備の簡略化又は省力化を可能とし且つ鑄造作業等の安全性を図ることのできる鑄造用等の溶湯運搬炉に関する。

【0002】

【従来の技術】 従来、反射炉で所定鑄込温度に融解された金属の溶湯を鑄造作業部へ運搬する場合は、図 4 に示すように、反射炉 17 で融解された溶湯 18 を一旦前炉 19 に収容してこの前炉 19 に於て成分調製による溶湯処理を行い、更にとりべ 20 に移して脱ガス、脱酸等を行ってから、とりべ 20 をクレーン、リフト、モノレール、トラバース等の移動手段 21 を利用して鑄造作業部に備えた保持炉 22 まで移動させた後、とりべ 20 をそのまま傾動して保持炉 22 へ移したり、或いはホンプにより減圧、又は加圧して保持炉 22 に移し所定量の配湯を行ったものである。

【0003】 しかし、前記従来の運搬によるときは前炉或いはとりべなどの諸設備を必要とするし、又、運搬に際し反射炉から前炉、この前炉からとりべ、とりべから保持炉へと溶湯を順次移し替へて運搬するので、安全性はきわめて低いし、特にとりべによる移動に於ては開口状態のとりべに移してそのまま運搬するから、周囲が高温度となるため移動手段のクレーンやリフトは安全性保持を目的として、耐熱性を備えた特殊のものを使用する必要があつて設備費は高価化する問題を有し、又、順次移し替へてから運搬するため溶湯温度が下り溶湯の鑄込み条件（鑄込温度の低下化等）を悪くすることもあるし、さらに又、移し替へ毎作業場が暑くなったりして夏季などでは作業能率が大幅に低下する等の問題点があつた。

【0004】

【発明が解決しようとする課題】 本発明は、前記した従来の課題を解消するためになされたもので、前炉と、とりべとを一体化し且つ溶湯の鑄込温度保持ができる密閉炉として省設備、省エネルギーを可能とし、又運搬中、周囲が暑くならず一般的なトラバース等を使用できるとともに、安全な溶湯運搬が行へ鑄造作業等の能率低下を起さない便利な鑄造用等の溶湯運搬炉の提供を目的としている。

【0005】

【課題を解決するための手段】 叙上の目的を達成するための本発明に係る鑄造用等の溶湯運搬炉の手段は、上部に収容する融解金属の脱ガス、脱酸等の溶湯処理口を備える溶湯運搬炉本体と、該溶湯運搬炉本体に設けた収容溶湯の鑄込温度の保持手段と、前記溶湯処理口へ気密的に対設する閉塞蓋と、溶湯運搬炉本体に設けた溶湯収容口を兼ねた掃除口と、溶湯運搬炉本体に設ける密閉した炉本体の内部圧調整手段と、溶湯運搬炉本体に設け且つ内部圧の変化に伴う収容溶湯の取出し部とよりなり、化学成分調整を行うことのできる構成である。

【0006】

【作用】 本発明の溶湯運搬炉を使用して融解金属からなる溶湯を運搬する場合は、溶湯運搬炉本体の溶湯収容口を開てこれより反射炉で融解された金属を投入し、所定量収容した後、電熱器等による鑄込温度の保持手段により溶湯の温度が下らないように温度保持をしながら、溶湯処理口より溶湯の脱ガス、脱酸等の溶湯処理を行ってから、前記溶湯収容口及び鉛湯処理口に密閉蓋を当てて気密的に閉塞するするもので、更に密封した溶湯運搬炉本体をクレーン、リフト、トラバースなどの移動手段によって鑄造機近傍に備えた手元炉へ運搬する。更に、溶湯運搬炉本体より溶湯を取出す場合は、溶湯運搬炉本体に設けた内部圧調整手段によって気密保持した炉本体の内部圧を高めて収容した溶湯を取出し部より前記手元炉へそのまま移し替へる。前記溶湯運搬炉本体の移動中は、炉本体は密封されているからとりべのように周囲が暑くならずトラバース等の移動手段は、特殊構成によるものでなくて一般的なものを使用できて、安全に搬送できる。

【0007】

【実施例】 次に本発明に係る鑄造用等の溶湯運搬炉の実施例を図面に基つて説明すると、図 1 は溶湯を収容して運搬状態を示す図、図 2 は同平面図、図 3 は溶湯を取出し状態を示すもので、この実施例による溶湯運搬炉は、上部に脱ガス、脱酸等の溶湯処理口 1 を備えた溶湯運搬炉本体 2 と、この溶湯運搬炉本体 2 へ着脱自在に設けた収容溶湯の鑄込温度の保持手段 3 と、溶湯処理口 1 へ対設した閉塞蓋 4 と、溶湯運搬炉本体 2 に設けた溶湯収容口を兼ねる掃除口 5 と、溶湯運搬炉本体 2 に設けた炉本体を加圧する内部圧調整手段 6 と、前記溶湯運搬炉本体 2 に脱着自在に設けた収容溶湯の取出し部 7 とより構成され、前記溶湯運搬炉本体 2 は、矩形で密閉反射炉型式とし、前部には 35° の角度を有する前傾収容部 8 を、上面に溶湯処理口 1 を、前傾収容部 8 には溶湯収容口を兼ねる掃除口 5 が開口させてある。

【0008】 次に溶湯運搬炉本体 2 に設けた鑄込温度の保持手段 3 は、電熱器からなる発熱体を使用し、溶湯運搬炉本体 2 の側壁に開口させた発熱体出入口 9 より出し入れ自在とし、収容した溶湯の温度を下げないようにこ

れの鑄込温度を保持する。前記発熱体出入口 9 は、溶湯の取出しの際圧搾空気による炉本体の内部圧調整手段 6 の装着部を兼ねる。尚、この鑄込温度の保持手段 3 は、炉底部近傍に設ける浸漬形発熱体を設置する場合もある。

【0009】溶湯運搬炉本体 2 の溶湯処理口 1 へ対設する閉塞蓋 4 は、周縁を有する断面皿形状として後端部を溶湯処理口 1 近傍に設けた軸 10 へ回動自在に取付けたハッチ形構成とし、又前端に設けた U 状の係止部 11 へ起倒自在の係止金具 12 を係合させて前記軸 10 に螺合した緊締ハンドル 13 の螺合緊締により溶湯処理口 1 へ圧接させる。この圧接部に設けたシール材 14 により気密閉塞を可能としてある。又、溶湯収容口を兼ねる掃除口 5 にも前記と同様の気密保持を可能とした密閉蓋 15 が開閉自在に設けてある。

【0010】次に炉本体 2 の内部圧調整手段 6 は、コンプレッサ (図示省略) とこのコンプレッサからの圧搾空気を溶湯運搬炉本体 2 内へ供給する配管 6a と、レギュレーターと、バルブと、緊急排気バルブとより構成し、溶湯運搬炉本体 2 の発熱体出入口 9 を利用して之に前記配管 6a を取付け密閉状態の溶湯運搬炉本体 2 内の内部圧を高めて溶湯 16 を取り出すもので、この場合炉内の圧力計を確認しながらレギュレーターの圧力をゆっくり上昇させる。このとき炉内圧が 0.1 kg/cm^2 になると収容された溶湯は約 400mm 上昇し、 0.2 kg/cm^2 程で溶湯は取出し部 7 より出る。

【0011】溶湯運搬炉本体 2 へ嵌脱自在に設けた溶湯 16 の取出し部 7 は、逆 U 字形に曲成したパイプ管を使用し、前記溶湯運搬炉本体 2 の前傾収容部 8 に開口させた取出し口よりパイプ管の一方を口部を密封した状態で差し込み、前記内部圧調整手段 6 の作動により上昇した溶湯 16 を他方の口より取り出し、手元炉 (図示省略) とか鑄型部へ移したり、流し込んだりする。この取出し部 7 の横に溶湯収容口を兼ねる掃除口 5 が設けてある。

【0012】以上、この実施例による鑄造用等の溶湯運搬炉により融解金属の溶湯を反射炉より運搬する場合は、溶湯運搬炉本体 2 の前傾収容部 8 に設けた溶湯収容口 5 を開口させて溶湯を収容させ、さらに上部の溶湯処理口 1 より脱ガス装置に窒素ガス及びアルゴンガスを適時流しながら該脱ガス装置を静かに溶湯中に入れて脱ガスを行い、溶湯中のガス量を確認しながら、溶湯上の酸化物を充分乾燥した道具で取り除く。前記脱ガス作業を終了した後、前記溶湯収容口 5 と溶湯処理口 1 を閉塞蓋 4、15 により夫々密封閉鎖し、又、溶湯運搬炉本体 2 に設けた鑄込温度の保持手段 3 により溶湯の温度調整をしながら、トラバース等の移動手段により溶湯運搬炉本体 2 を所定位置へ移動させてから、前記保持手段 3 の部分に内部圧調整手段 6 を装着し、又、取出し部 7 のパイ

プ管を取付けて内部圧調整手段 6 のレギュレーターの圧力をゆっくり上昇させて炉本体の内部圧を $0.1 \text{ kg/cm}^2 \sim 0.2 \text{ kg/cm}^2$ に調整し溶湯面を上昇させて前記取出し部 7 より溶湯をそのまま手元炉等へ取り出す。又、この加圧工程は、サーボ弁と圧力センサを利用した加圧装置を使用して加圧を調整する場合もある。

【0013】

【発明の効果】叙上のように本発明の鑄造用等の溶湯運搬炉は、上部に収容する融解金属の脱ガス、脱酸等の溶湯処理口を備える溶湯運搬炉本体と、該溶湯運搬炉本体に設けた収容溶湯の鑄込温度の保持手段と、前記溶湯処理口へ気密的に対設する閉塞蓋と、溶湯運搬炉本体に設けた溶湯収容口を兼ねる掃除口と、溶湯運搬炉本体に設ける密閉した炉本体の内部圧調整手段と、溶湯運搬炉本体に設け且つ内部圧の変化に伴う収容溶湯の取出し部とより構成するもので、溶湯運搬炉本体に収容した溶湯は密閉状態で搬送されるので安全性はきわめて高し、又、とりべによる搬送のように開口状態のとりべに移して運搬するものではないので、炉本体の周囲が高温となることもないからクレーンやリフト、トラバース等の移動手段は一般のものを使用することができるので、設備費が高価化することはない。又、本発明は前炉と、とりべとを一体化したもので従来のように移し替へによる運搬によるものではないので、溶湯温度が下り溶湯の鑄込み条件を悪くすることもないし。さらに又、運搬路や作業場が暑くなったすることもないから夏季等に於ても作業能率は大巾に高揚する。又、溶湯の取出しに際しては加圧式によるため、傾動、ポンプアップ、減圧に比べきわめて安全で作業性は良好となる。等の特有の効果を奏する。

【図面の簡単な説明】

【図 1】本発明に係る鑄造用等の溶湯運搬炉の実施例を示すもので、溶湯の運搬状態を示す一部を縦断した側面図である。

【図 2】同実施例における溶湯の運搬状態の平面図である。

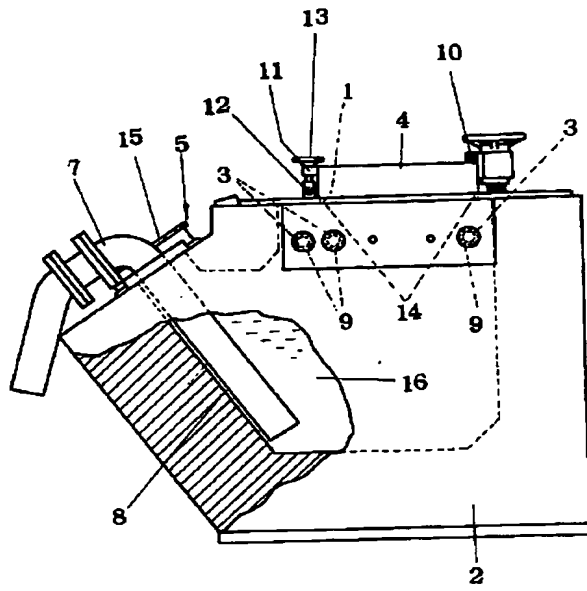
【図 3】同実施例における溶湯の取出し状態を示す一部を縦断した側面図である。

【図 4】従来の溶湯運搬手段を示す説明図である。

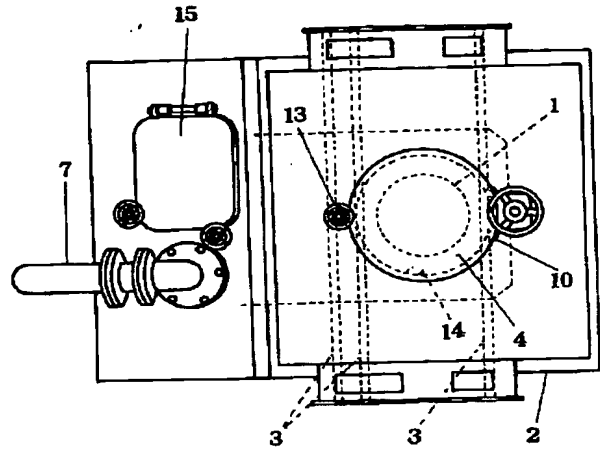
【符号の説明】

- 1 溶湯収容口
- 2 溶湯運搬炉本体
- 3 保持手段
- 4 閉塞蓋
- 5 掃除口
- 6 内部圧調整手段
- 7 取出し部

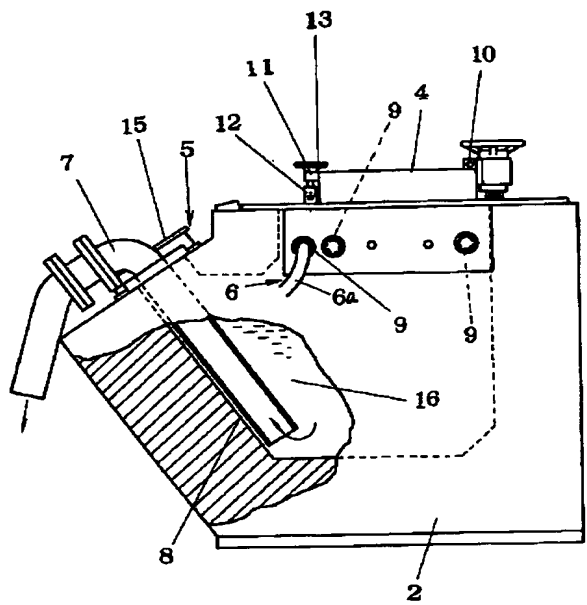
【図1】



【図2】



【図3】



【図4】

